



Genotoxic changes in smokers: An invitro study

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Abstracts

Introduction : Cigarette smoking causes variety of cancers, such as oral cancer. It has been shown that there is a dose-response relationship between smoking and development of oral cancer. Cigarette contains several carcinogens that lead to chromosomal alterations.

Aim:The aim of study was to determine the micronucleus changes of the buccal mucosa cells in smokers.

Material and Methods: Smokers divided into two groups: (1) individuals who smoke less than 10 years (14 samples); (2) individuals with the smoking more than 10 years (26 samples).The control group selected from nonsmokers (23 samples). The exfoliated buccal mucosa cells were scrapped using spatula and they were spread on to the glass slide. Feulgen method was used for micronucleus staining. The presence of micronucleus in all subjects and the mean percentage of micronucleus in nuclei were determined.

Results: The average number of micronucleus of buccal mucosa cells in nonsmokers, in group who smoke less than 10 years and for those smoking more than 10 years were 0.94,1.89 and 2.01 respectively. This difference was statistically significant ($P < 0.002$).Considering the number of micronucleus of the buccal mucosa cells, the difference between the two groups was not significant ($P < 0.6$).The percentage of the cells with micronucleus in smokers smoking either less or more than 10 years was not significant ($P < 0.6$).

Conclusion: Cigarette smoking can causes chromosomal alternations from the early time of smoking. Increasing the years of smoking and numbers of smoked cigarette are leads to increasing the changes.

Keywords

Buccal mucosa, Cigarette, Micronucleus